Challenges in using multiple DRM devices per system

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WSI		Acceleration API
DRI 2/3		Vulkan
Wayland	EGL	OpenGL
GBM/KMS		OpenCL
/dev/dri/controlX		/dev/dri/renderX

/dev/dri/cardX

WSI

DRI 2/3

Wayland

GBM/KMS

/dev/dri/controlX

Acceleration API

Vulkan

EGL

OpenGL

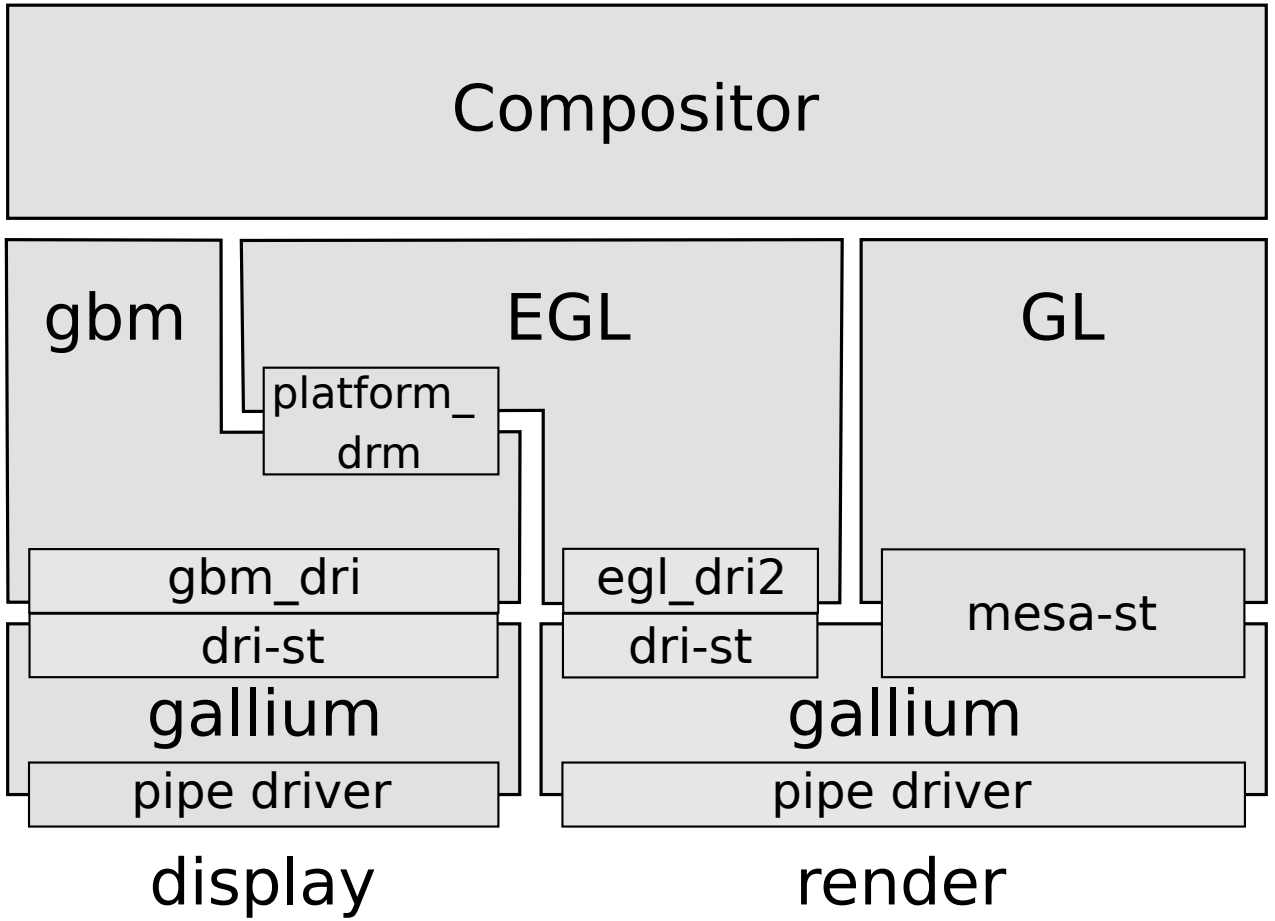
OpenCL

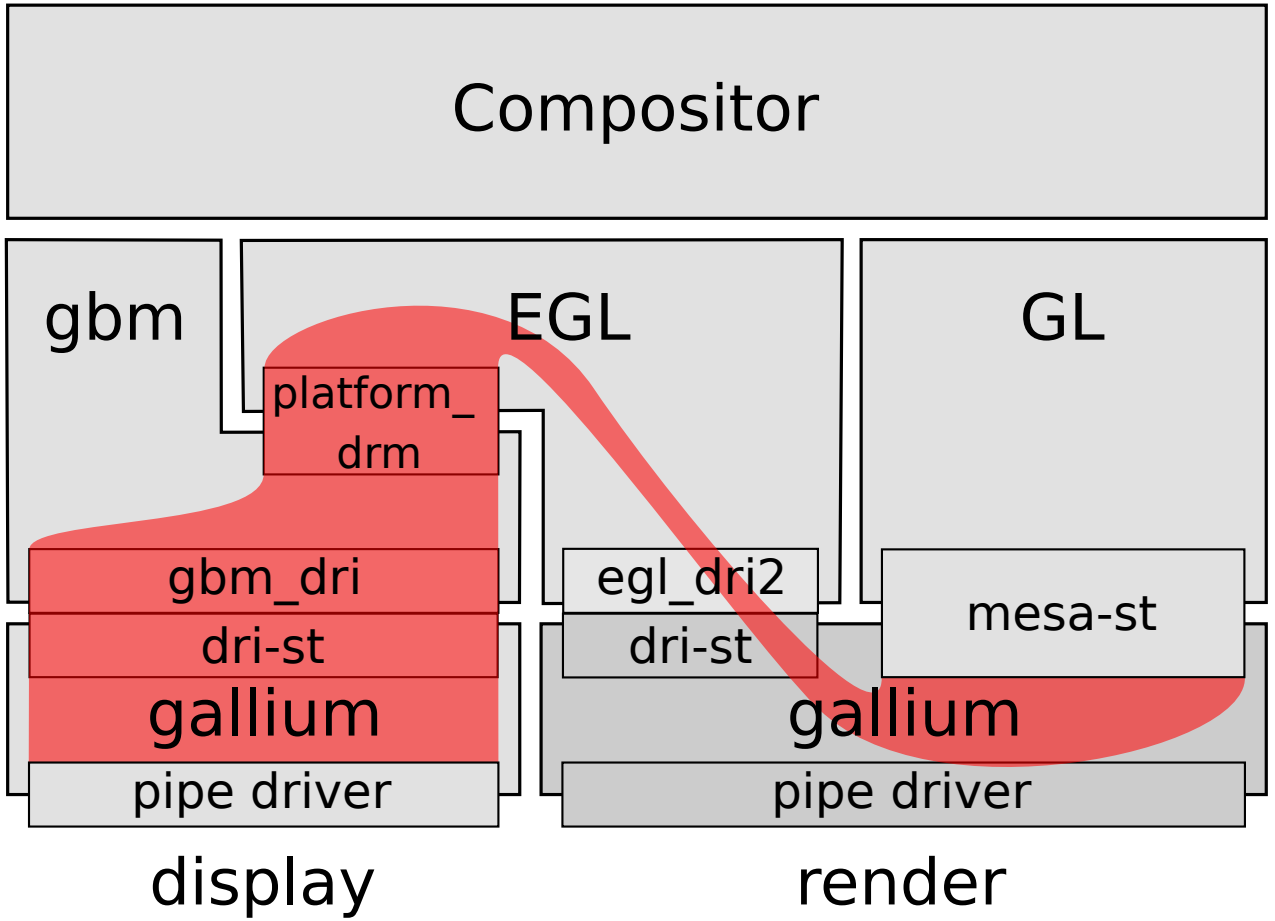
/dev/dri/renderX

/dev/dri/cardX

1. GBM lacks vendor neutral dispatch

2. GBM mixes WSI and accel context


Compositor
gbm
EGL
GL
platform_
drm
gbm_dri
dri-st
egl_dri2
dri-st
mesa-st
gallium
gallium
pipe driver
pipe driver
display
render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3. How to find matching/best EGL device?

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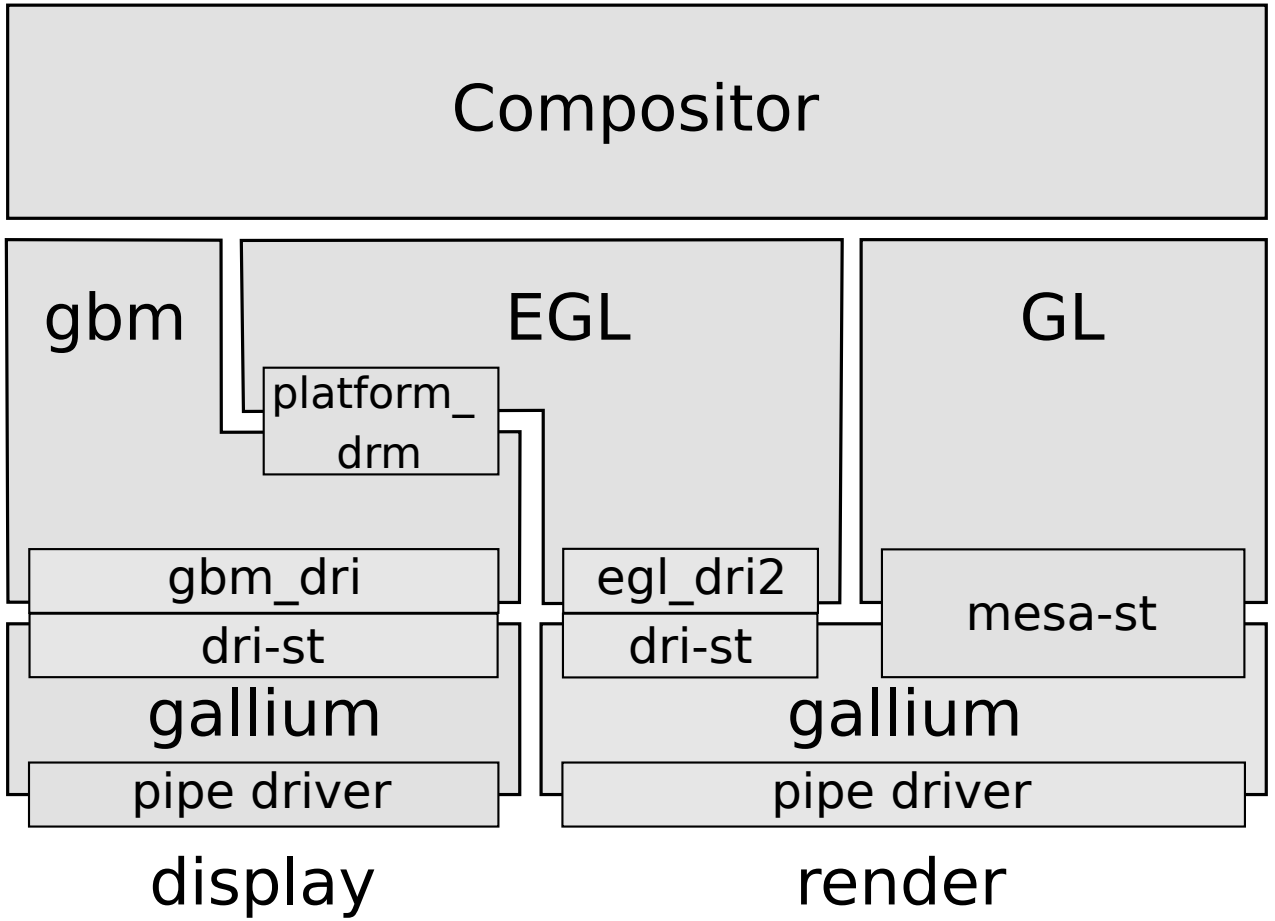
4. Buffer constraint negotiation

- format modifier (tiling, compression)
- alignments (start, size, stride, height)
- contig vs paged

5. Where and how to alloc the memory backing the negotiated buffer?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